UNIVERSITY OF NORTHERN COLORADO

MARCH, 2003

INSTITUTIONAL INITIATIVES IN RESPONSE TO U.S. DEPARTMENT OF EDUCATION MATHEMATICS AND SCIENCE INITIATIVE

I. PUBLIC ENGAGEMENT:

- The Colorado Department of Education has developed science and mathematics state content standards and all pre-service teacher education programs have been reconstructed to address the standards. All students seeking teacher licensure for elementary teaching are required to complete 9 hours of mathematics and 13 hours of science within their degree programs. They may also elect an 18-hour concentration area from the sciences and mathematics area.
- For more than 40 years, the University of Northern Colorado has annually supported 30 high school students annually in the Frontiers of Science Institute designed to engage students in science careers.
- The UNC Mathematics and Science Teaching (MAST) Center serves as the focal point for the center for Learning and Teaching in the West (WLT-W) grant to provide professional development for over 550 secondary mathematics and science teachers in "high need" schools. The Center also provided leadership to Upward Bound, Mathematics and Science Upward Bound, a GK-12 Graduate Teaching Fellows program and RAMHSS, a NSF funded Research Experience for Minority High Schools.

II. RECRUITMENT AND RETENTION OF TEACHERS:

- Through the Northern Colorado High Plains Science Partnership, a master's degree with a natural science endorsement will focus on the teaching of science content to minority and disadvantaged students. Mobile Laboratories will be delivered to K-9 teachers through teacher leaders with English language learner expertise. This partnership of 3 suburban and 24 rural districts is intended to impact 1,500 teachers and almost 50,000 students over a 5-year period.
- The MA degree with the endorsement in natural science will focus specifically on science content, pedagogical knowledge and targeted knowledge and training to enhance the teaching of minority, English language learners and/or disadvantaged students.

III. DEVELOPING A RESEARCH BASE

- All of the UNC projects include an extensive assessment and evaluation component. The University annually holds the UNC Academic Excellence Week where research findings will be discussed and disseminated.
- Most important to the evaluation of these projects will be the performance data the state's science and literacy tests, the state's PLACE results (teacher licensure examination) results in mathematics and science, ACT and SAT scores of students and science kit examinations.